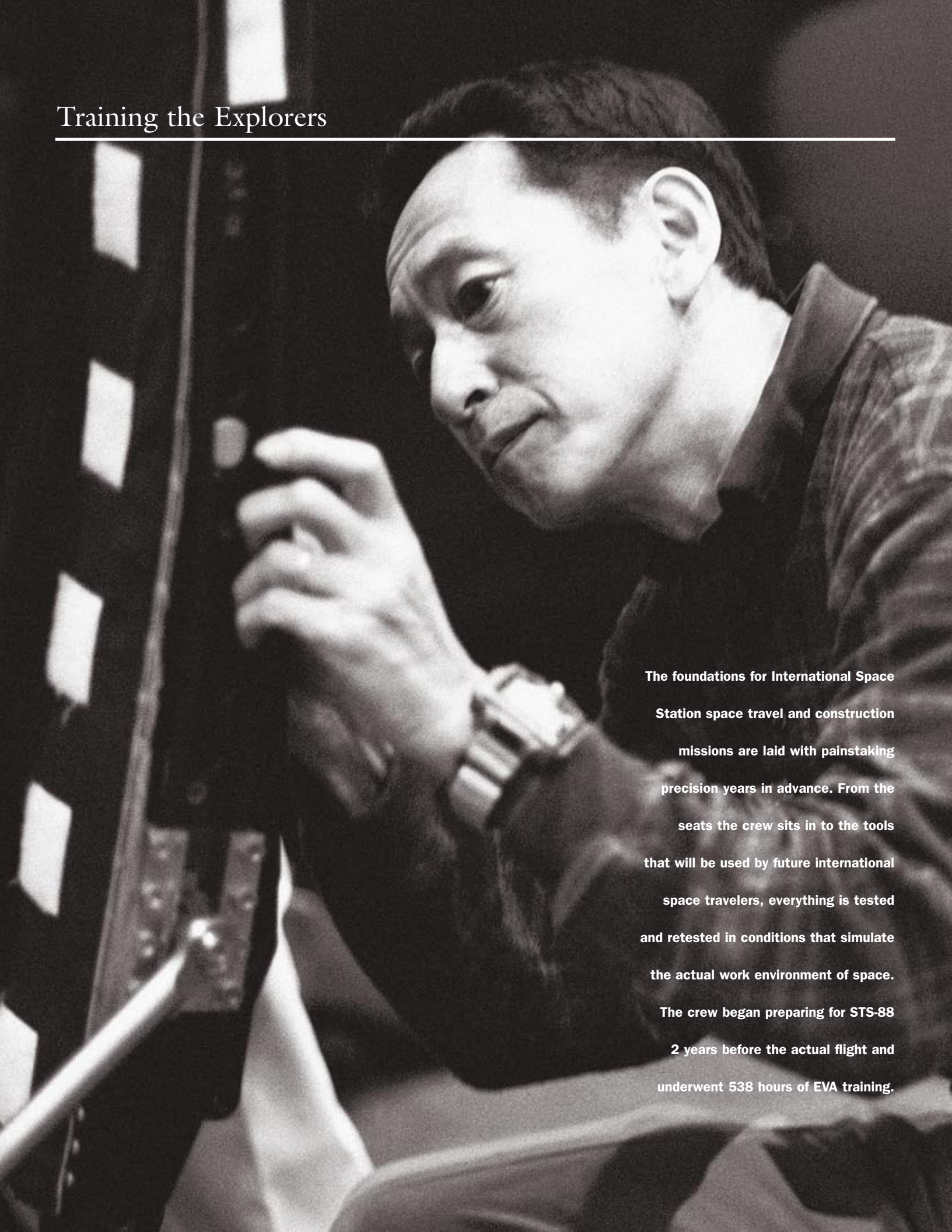
Training the Explorers



The foundations for International Space Station space travel and construction missions are laid with painstaking precision years in advance. From the seats the crew sits in to the tools that will be used by future international space travelers, everything is tested and retested in conditions that simulate the actual work environment of space. The crew began preparing for STS-88 2 years before the actual flight and underwent 538 hours of EVA training.

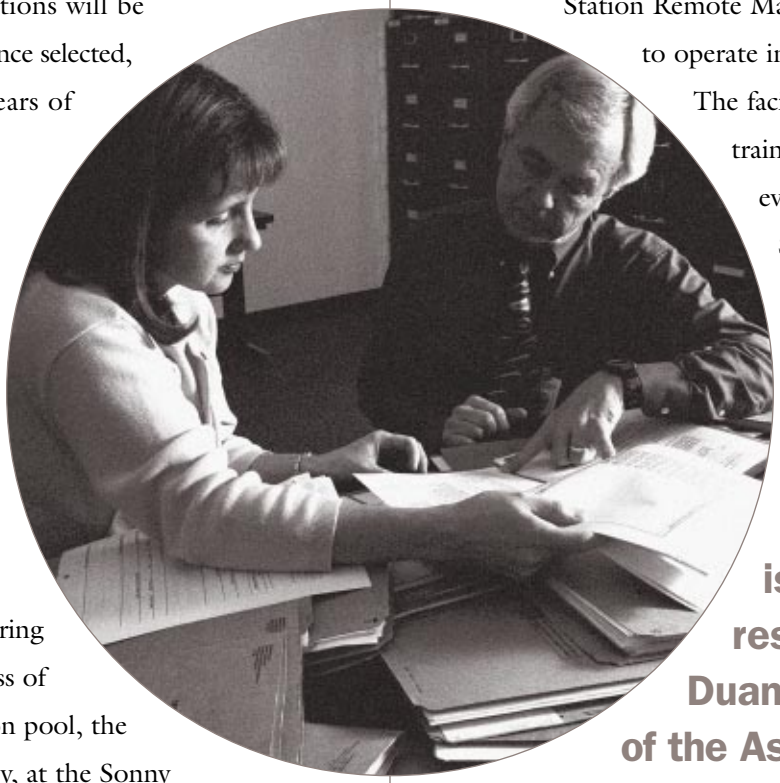
Johnson Space Center is responsible for recruiting and training U.S. astronauts and ultimately assigning them to missions. It is here that some of the most exceptional men and women in the world prepare for their most extraordinary work.

Every 2 years, the selection process begins for another astronaut candidate class. In 1999, more than 3,000 applications were received. The screening process is in progress, and the final selections will be announced in spring 2000. Once selected, astronauts receive several years of training for future missions aboard the Shuttle and the International Space Station. Preparation at JSC is so thorough that the astronauts say only the vibrations from launch and the experience of weightlessness are missing from the practice sessions.

A crucial element for preparing for work in the weightlessness of space is the 6.2-million-gallon pool, the Neutral Buoyancy Laboratory, at the Sonny Carter Training Facility. The pool and the techniques developed to simulate zero g are essential tools for spacewalk training and for the design, development, and testing of the Space Station and future NASA spacecraft.

Training is also conducted in Space Shuttle fixed-base and motion-base simulators at JSC. To maintain flying proficiency, astronauts train in T-38 jets and in the Shuttle Training Aircraft, a modified Gulfstream jet designed to mimic the landing characteristics of the Space Shuttle. These aircraft are housed at Ellington Field.

With the completion of the massive Multi-use Remote Manipulator Development Facility in Building 9 in 1999, JSC has acquired an important new addition to its array of astronaut training tools. The 15-ton, 60-foot-long robotic arm is a full-scale replica of the Canadian-built Space Station Remote Manipulator System, designed to operate in a gravity environment. The facility provides preflight training for astronauts who will eventually operate the actual Station arm on orbit to assemble the Space Station.



Selecting America's future astronauts is an awesome responsibility, but Duane Ross, manager of the Astronaut Selection Office, and Teresa Gomez, assistant manager, make processing the paperwork — more than 3,000 applications — look easy.

Teresa Gomez and Duane Ross
Since 1984, Teresa Gomez and Duane Ross have done an exemplary job of processing all paperwork involved in astronaut selection.